



*Georgia Regional Transportation Authority*

# **Paying the Price for Congestion**

*Recommendations Regarding the Impact and  
Feasibility of Implementing Value Pricing  
Transportation Options in Greater Atlanta*

Summary of the Work of the Atlanta Value Pricing  
Advisory Task Force

Passed unanimously by the Task Force- May 21, 2003

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# Preface

The Atlanta Value Pricing Advisory Task Force, sponsored by the Georgia Regional Transportation Authority (GRTA), convened in October 2001 under the leadership of co-chairs Terry Lawler and State Senator Gloria Butler with a mandate from the GRTA Board to explore and evaluate value-pricing transportation options and to make recommendations regarding the feasibility and impact of these options.

Value pricing refers to market-based strategies that ask drivers to pay a premium in exchange for improved mobility. Examples of value pricing strategies include toll roads, restricted lanes, and “pay-as-you-drive” fees such as parking charges and automobile insurance, to name a few. Changes in the motor fuel tax were not considered as a value pricing mechanism by this Task Force.

Throughout its deliberations, the Task Force made learning a priority, hearing from experts in value pricing and learning about real time experiences in Georgia and in other markets. This report includes a summary of this learning, as well as recommendations for the GRTA board to consider as it addresses the twin challenges of reducing congestion and improving air quality in the greater Atlanta area.

Members of the Task Force are listed in Appendix D. Mark Willey, Valentin Vulov, Robert Alexander, and Marvin Woodward of GRTA and Janet Rechtman of Rechtman Consulting Group provided staff support for this effort. Thanks to their combined efforts, Georgians now have an informed framework for evaluating value pricing options and a road map for future development in this area.

# Executive Summary and Findings

## Task Force Goal and Evaluation Criteria

The Value Pricing Task Force's (VPTF) goal was to explore and evaluate value-pricing (market-based) transportation options and make recommendations to the GRTA Board. Appendix A summarizes the steps in this planning process. The Task Force hopes that these findings and recommendations can set the climate for how GRTA evaluates value pricing in Georgia.

The Task Force adopted the following criteria for evaluating the value pricing options it reviewed:

- What is the impact of the option?
  - How does this option affect mobility, air quality and congestion?
  - What is the impact on key stakeholder groups (examples: drivers, truckers, transit dependent individuals, political activists, etc.)?
  - Does the option create a positive choice for stakeholders?
  - How does this option relate to other ongoing transportation plans?
- Is the option feasible for the region?
  - Is it technically feasible?
  - Is it likely to be accepted by key stakeholders?
  - Is it economically feasible?

## Findings

The Task Force defined a successful value pricing initiative as one that has clearly defined benefits, including a direct link to changes in driver behavior and return on investment to the community. The initiative should be housed in an appropriate institutional framework, respect privacy and equity issues among diverse members of the community, and be technically and financially feasible without creating undue burdens on taxpayers.

The Task Force believes that value pricing strategies are most feasible and have the most impact on congestion when they are part of a system of choices, where drivers have readily accessible options such as transit, car-pooling, flexible hours, etc. Value pricing alone is not a magic wand – it is a choice, a piece of the solution.

The Task Force recognizes that effectively addressing this issue will require an investment in educating leaders, motorists and members of the community about the hidden costs of travel and market-based opportunities to offset these costs with revenue from consumers who are willing to pay the price for improved mobility.

Assumptions underlying the Task Force recommendations include:

- Revenues from the motor vehicle fuel tax are a limited source of financing. Revenues from value pricing strategies can complement this resource.
- Value pricing is done successfully in other geographic areas – it is working in California, Texas, Florida, etc.
- Value pricing strategies are likely to be an important consideration in building new roads and transportation infrastructure. Therefore, a policy level discussion of general direction would be helpful for future planning.
- New technology has increased the feasibility and cost effectiveness of implementing value pricing strategies.

The Task Force is also strongly aware that Atlanta's auto-dependent travel patterns make our highways a key route to employment for a highly diverse community. While evidence suggests that value pricing does not necessarily discriminate against low-income people, the Task Force emphasizes the need to use a portion of the revenue generated by value pricing to subsidize low cost alternatives to the automobile, such as bus, van pool, and fixed guideway transit.

Based upon its research and analysis, the Task Force finds that HOT/managed lanes and other congestion pricing strategies hold the greatest promise for implementing value pricing in this

region at this time. The Task Force also recommends that GRTA move quickly to a) publish this report as part of a general effort to initiate a community wide dialog about value pricing options; b) identify and implement clearly defined roles in the regional transportation system for other value pricing options considered by the Task Force; c) urge ARC, GDOT and its own staff to incorporate HOT/HOV options into projects under development; d) work with other agencies to test value pricing projects; and e) explore the feasibility of region-wide use of technology, including smart cards, to support transportation.

# Overview of Value Pricing

## What is Value Pricing?

Value pricing, also known as congestion pricing and peak-period pricing, is a way of harnessing the power of the market and reducing the waste associated with congestion. It entails fees or tolls for road use that vary with the level of congestion. Fees are typically assessed electronically to eliminate delays associated with manual toll collection facilities.

This concept of assessing relatively higher prices for travel during peak periods is the same as that used in many other sectors of the economy to respond to peak-use demands. Airlines offer off-peak discounts and hotel rooms cost more during peak tourist seasons. Road-use charges that vary with the level of congestion provide incentives to shift some trips to off-peak times, less-congested routes, or alternative modes, or to cause some lower-valued trips to be combined with other trips, or to be eliminated.

A shift in a relatively small proportion of peak-period trips can lead to substantial reductions in overall congestion. And, while congestion charges create incentives for more efficient use of existing capacity, they also provide improved indicators of the potential need for future capacity expansion. They can also generate revenues that can be used to further enhance urban mobility.<sup>1</sup>

## Why Use Value Pricing?

Value pricing makes it easier for drivers to make efficient choices about when and where they travel and it helps more people commute during peak periods. In short, the public saves time and money by avoiding congestion. This helps boost productivity in the economy, reduces accidents, and lessens smog. It also improves traffic flow on the highways and gives valuable information about demand and costs to those in charge of maintaining and expanding the highways.

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<sup>1</sup> (From the Value Pricing Pilot Program Brochure: <http://www.fhwa.dot.gov/policy/vppp.htm>)



Without some way of controlling or limiting traffic on free highways, congestion continues to increase. The solution has typically been to increase capacity of the highways. Experience has shown that this only serves to again increase traffic and congestion in an unmanageable fashion. Experiments with value pricing in larger cities have resulted in successfully reducing congestion and improving efficient use of highways without expensive expansion of capacity. In Georgia, as we continue to grow as a state, we have the opportunity to learn from others' mistakes and grow in a sustainable, prosperous, and efficient way.

## **How Value Pricing Works**

There are many ways to use value pricing to reduce congestion. Road pricing, vehicle-use pricing and parking pricing are three major ways value-pricing strategies are used around the world.

### **Road Pricing**

“HOV” or High Occupancy Vehicle lanes are the forerunner of road pricing and were an attempt to reduce congestion without incorporating cost factors. These lanes have been in existence since the 70s in metropolitan areas in the United States and here in Georgia since December 1994. Cities that have had HOV lanes over time have experienced moderate success. An emerging system replacing HOV lanes is “HOT” or High Occupancy Toll lanes. In HOT lanes, low occupancy vehicles can still use these lanes by paying a toll and high-occupancy vehicles (HOVs) can still travel at no charge or at a discounted rate.

According to the Federal Highway Administration Office of Policy and the Hubert H. Humphrey Institute of Public Affairs (University of Minnesota) over the last 15 years or so, there has been a wide range of success on HOV lanes in the United States.

Some HOV lanes have been so successful that they became overloaded, requiring the operating agencies to increase occupancy requirements. Conversely, many HOV lanes have experienced substantially less use than anticipated. Among the best known of these cases is the perceived underutilization of HOV lanes that led to the decommissioning of the lanes in northern New Jersey. That action stemmed from political pressure generated by strong attacks in the press and

from a public concern about perceived empty HOV lanes in the peak periods while adjacent regular lanes were severely congested.

HOT lanes use price to manage demand and as such, are sometimes referred to as in a broader concept as “managed” lanes. In essence, value pricing creates an additional category of eligibility: vehicles with a certain minimum occupancy plus those paying a toll. This allows for more fine tuning of HOV lane eligibility because tolls can be varied to find the appropriate price to generate only sufficient additional demand to utilize any spare capacity. HOT lanes have been implemented on existing HOV lanes in San Diego, California and Houston, Texas. The HOV lane on I-15 in San Diego is a two-lane facility that was underutilized. Allowing single occupant vehicles paying a toll to join the toll-free HOVs resulted in substantial improvement in the use of the HOV lanes.

Electronic toll technology allows transportation authorities to implement HOT lanes easily and inexpensively. The most efficient manner to control congestion is through the use of managed lanes, which have been successfully used in the New York and San Diego metropolitan areas. Managed lanes allow for a variable toll depending on the number of cars traveling at any time. This allows drivers to make a choice about when and where they will travel based on the amount of traffic at the time of travel. With managed lanes or facilities, tolls gradually increase as the peak travel increases and decrease as traffic flow eases, thus using market forces to regulate the demand placed on the roadway system. Drivers know in advance the maximum tolls for each time segment during rush hour. If traffic is less than peak, tolls are less and more cars can choose to travel in the managed lanes. Currently, U.S. Representative Mark Kennedy (R-Minnesota) and Adman Smith (D-Washington) have introduced legislation that would allow states and other public and/or private groups to collect fees to finance the construction of additional lanes on the Interstate Highway System if the lanes would reduce traffic congestion.

Variable tolls on toll facilities are another way road pricing is being implemented across the country. In Lee County, Florida, for example, the toll for crossing a bridge has three levels of pricing. At peak times, the toll is highest. At “shoulder times,” just before and after the peak travel times, tolls are reduced to encourage drivers to shift their travel to these times thus reducing peak congestion. A third level of toll (if at all) is charged at off-peak times. This

method allows for efficient use of existing toll facilities - and also shows how non-urban applications of value pricing can also benefit citizens and roadway authorities.<sup>2</sup>

Yet another potential approach for collecting a surcharge is through a system of Fast and Intertwined Regular (FAIR) lanes. In this strategy, portions of the monies paid by those in the tolled lanes would be transferred electronically as credits to those driving in the adjacent free general-use lanes. The non-tolled drivers could then store these credits for later use to pay for public transit or to pay for use of the toll lanes. The FAIR lanes concept thus becomes an innovative means to address public concerns about conversion of existing free lanes to value priced managed lanes.

### **Vehicle Use Pricing**

Pay-as-you-drive automotive insurance, mileage-based automotive leasing & vehicle taxation and car sharing are three options outlined by the Federal Highway Administration and Humphrey Institute. The concept of vehicle use pricing allows vehicle taxation and insurance rates to be more accurately priced so those who drive more pay more. This has been shown to reduce congestion and highway use by encouraging drivers to use their vehicles less.

#### ***Pay-As-You-Drive Automotive Insurance***

By converting automotive insurance from a fixed to a per mile cost, insurance companies more accurately bill their customers based on crash risk and provide them a financial incentive to drive less – reducing crashes, public infrastructure costs, congestion, and environmental degradation. The variance in insurance rates based on vehicle miles traveled (VMT) is generally insignificant today, although only a small percentage of insurance claims are made (such as for theft) when a vehicle is not being driven. Studies estimate between a 10 percent to 20 percent reduction in VMT would result if all fixed automotive insurance costs were converted to pay-as-you-drive (PAYD). With a nationwide \$0.10 per mile increase in PAYD costs, there would be an estimated \$44 billion in congestion reduction benefits over twenty years.

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<sup>2</sup> For more information see: [http://www.hhh.umn.edu/centers/slp/projects/conpric/learn/types\\_a.htm](http://www.hhh.umn.edu/centers/slp/projects/conpric/learn/types_a.htm).

### ***Mileage-Based Automotive Leasing and Vehicle Taxation***

Over 80 percent of the costs of owning and operating a vehicle are fixed. Once a person has chosen to acquire a vehicle, there is typically little financial incentive not to use it heavily. Automotive leasing and taxation are promising places to look for converting some fixed vehicle costs to a pay-per-mile or pay-as-you-drive basis, thereby financially rewarding consumers for reducing their driving and related congestion and vehicle emissions. Approximately 30 percent of new vehicles in the United States are acquired through leases. With the *Automotive Lease Guide* and *Edmunds Used Car Buyers Guide* clearly linking vehicle depreciation to mileage, PAYD leasing holds promise for reducing vehicle miles traveled (VMT) while meeting the needs of vehicle manufacturers and dealers, transportation officials and consumers.

### ***Car Sharing***

Car sharing, or automated hourly neighborhood car rentals that substitute for car ownership, is an innovative, voluntary transportation pricing measure. About 80 percent of the costs of driving in the United States are fixed. Car sharing encourages individuals to limit their driving by converting these fixed ownership related costs to variable driving costs.

Car sharing is an important strategy in addressing urban parking woes. Twenty households typically share each car sharing vehicle, reducing parking needs for office and housing developments and their costs. There is no greater inducement to car sharing than high neighborhood parking costs for personal vehicles. San Francisco's City CarShare is working with developers and the City in offering car sharing while reducing parking requirements. Flexcar, also with Value Pricing Pilot Project funding support, is offering downtown Seattle building owners an opportunity to alleviate parking demand by encouraging parking "cash-out" in conjunction with providing car sharing vehicles on site.

New car sharing concepts that could reduce congestion and expand market penetration include: peak period pricing of car sharing, car share ridesharing (half-priced car sharing is facilitated by modifying existing car sharing reservation systems), dynamic ridesharing (real-time carpool matching coupled with financial inducements for ridesharing with personal vehicles already on the road), and temporary lease-back programs (compensating car owners for providing their vehicles for car sharing fleet usage during certain times). When combined with road pricing

concepts such as HOT lanes, FAIR lanes and higher peak period tolls on toll facilities, these innovative concepts could have a synergistic effect on congestion reduction and would provide excellent opportunities to demonstrate the effectiveness of road pricing and improve its political acceptability.

### ***Parking Cash Out***

Parking cash out allows employers to offer their employees the option of receiving taxable cash (up to \$175 in value) in lieu of any parking subsidy offered. In most cases, employers offer their employees the cash value of a rented parking space in lieu of the space itself. Employees may deny the cash and keep the tax-free parking subsidy or accept tax-free transit or vanpooling benefits (up to \$100 per month) in its place – with any balance in taxable cash. If an employee does accept the cash option, the cash is subject to income taxes for that employee creating an increase in payroll taxes for his or her employer. However, both parties ultimately benefit from implementing parking cash out: employees' incomes rise while employers' business expenses decrease from not having to subsidize as much parking.

### **Where Has Value Pricing Been Successful?**

Over the past thirty years there have been many successful pilot programs, experiments and implemented value pricing programs around the world. As metro area populations continue to swell and congestion increases, many innovative ways have worked to reduce congestion and restore efficiency on roadways – reducing overall costs and spurring economic vibrancy. Tables 1-4 below outline some successful value pricing projects. More detailed information is available through numerous Internet and printed studies that examine these projects further.

Table 1: Road Pricing<sup>3</sup>

Location	Project Description	Comments
Orange County, California 1995 HOT Lanes	Private construction of tolled express lanes in the median of State Route 91. Tolls vary by time of day and level of congestion and are collected by automatic transponder. The project is receiving a reasonable rate of return and may be expanding eastward.	Maintains a lesser-congested alternative to a more heavily used commuter route.
San Diego, California 1984 -HOV Lanes 1998 - HOT Lanes	After noticing that HOV lanes were not filling to capacity, transportation authorities tried limited, flat-fee passes for non-HOV drivers to use HOV lanes. This two-year experiment led to HOT lanes being established in 1998. Now, variable tolls range from .50 to \$4 (and up to \$8 in unusual circumstances) and fluctuate depending on demand up to a pre-set maximum schedule (which is available to drivers). Signs indicating the toll at the time of travel are visible to drivers before entering the HOT Lane so they can make appropriate choices.	The project has demonstrated self-sufficiency and success in meeting its goals.
Houston, Texas	HOV lanes were underutilized so HOT lanes were instituted. Drivers of vehicles with two occupants can pay a fixed toll (\$2.00) during rush hour to use an HOV3+ lane on Interstate 10 that is otherwise restricted to vehicles with three or more occupants. Electronic transponder deducts toll from driver's pre-paid account.	Pilot project led to additional HOT lanes in the region.
Toronto, Canada 1997	Variable Pricing on a new toll road using electronic tolling and photo identification of license plates (mailing bill) to collect tolls.	Has led to additional experiments in road pricing.
Paris, France 1992	Variable tolls reduce peak-period traffic on major intercity routes. Since there is high weekend congestion, tolls were increased 25-50% during peak times and reduced 25-50% during off-peak times.	This has been successful in reducing congestion and shifting traffic to off-peak driving times.

\* Please note that when HOT lanes utilize variable pricing for different times of day, they are sometimes referred to as managed lanes. Additional road pricing pilot projects are being conducted in Alameda County, CA, Santa Cruz, CA, Denver, CO, Miami-Dade County, FL, State of Maryland, Raleigh/Piedmont, NC, Portland, OR. The Minnesota State Legislature is currently considering giving the Minnesota Department of Transportation authority to start charging solo drivers a toll use HOV/Bus lanes on I-394 and I-35W.

<sup>3</sup> Source: [www.hhh.umn.edu/centers/slp/projects/conpric/index.htm](http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm), [www.tfhr.gov/pubrds/marapr99/pricing.htm](http://www.tfhr.gov/pubrds/marapr99/pricing.htm)

Table 2: Bridge/Tunnel Pricing

<b>Location</b>	<b>Project Description</b>	<b>Comments</b>
Lee County, Florida 1997	Peak and off-peak bridge toll variations to provide an incentive to shift travel out of the most heavily traveled time. Tolls are collected electronically and a 50% discount is available during “shoulder” times just before and after peak driving times.	Has resulted in reduced congestion during peak time and more trips made during off-peak times.
New York/ New Jersey Metro Area 1999	Bridges and tunnels are priced differently for peak and off-peak periods. Additionally, those using the electronic “EZ Pass” transponder always receive a discount on their toll since the electronic collection reduces congestion and labor costs.	Has resulted in additional pilot projects using variable tolls.

Table 3: Congested Area Pricing<sup>4</sup>

Location	Project Description	Comments
Fort Meyers, Florida 2000	To reduce congestion in downtown and beach areas, an area toll will be collected as drivers enter the “ring area.” This toll will vary by time of day and by season in order to maximize its effectiveness.	Reduction of congestion and ease in parking is expected.
Singapore 1975	Singapore pioneered an in-city congestion pricing scheme that manually charged drivers who were in the downtown area during morning rush hours. Later adaptations of this program charged for evening rush hour and collected tolls electronically. This is combined with an area licensing program that restricts the number of vehicles that enter the downtown area (5.2 square miles).	The program has been very successful in reducing congestion and encouraging public transportation.
Norway 1989	A “toll ring” has been established around three major cities in Norway. It charges drivers entering the cities. The tolls vary by time of day – charging more for rush hour periods. Toll revenues are used to support public transportation, bicycle/pedestrian traffic and highway repair.	Has resulted in reduced congestion, increased use of public transportation and more off-peak travel.
London 2003	A cordon has been established around the downtown London area. A flat fee of approximately \$8 is charged to those entering the eight-square-mile area of central London between 7 am and 6:30 pm. Revenues are invested back in the public transportation system	Has resulted in an approximately 20% reduction of traffic within the controlled area and a 14% increase in mass transit use during the morning commute.

<sup>4</sup> (Sources: [www.hhh.umn.edu/centers/slp/projects/conpric/index.htm](http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm), [www.tfhr.gov/pubrds/marapr99/pricing.htm](http://www.tfhr.gov/pubrds/marapr99/pricing.htm))



Table 4: Vehicle Use Pricing<sup>5</sup>

Location	Project Description	Comments
Boston, Mass. Pay-as-you-drive (PAYD) Insurance	The pilot will show that by using mileage-based automobile insurance, (lower vehicle expense), consumers will reduce their vehicle miles traveled (VMT) and therefore decrease traffic congestion.	Participants are estimated to reduce vehicle use by 10-20%
San Francisco, Calif. Car Sharing	Car sharing is a neighborhood-based, short-term auto share program. It is a fully-automated program operated by a non-profit organization.	Reduced congestion and ease in parking availability is expected as well as increased convenience for drivers.
Texas	Progressive Auto Insurance has piloted PAYD insurance with over 1,200 Texas drivers, charging them by the amount of time, time of day, and place of their driving. This allows them to save money by spending less time in their vehicles, particularly during congested periods when trips take the most time.	Amount of driving and number of crashes are expected to decline.
State of Minnesota Mileage-based Automotive Leasing & Vehicle Taxation	The pilot project will simulate changes in lease costs (by substantially reducing fixed lease costs but charging for every mile of travel) as well as the conversion of state sales and vehicle registration taxes on automotive leases to mileage charges. Additionally, MinDOT will simulate converting taxes on the purchase of new and used vehicles to mileage charges. Global positioning system technology is being used to gather data in this study.	Vehicle miles traveled is expected to decrease, as is peak period travel.

<sup>5</sup> Source: [www.hhh.umn.edu/centers/slp/projects/conpric/index.htm](http://www.hhh.umn.edu/centers/slp/projects/conpric/index.htm),  
[www.hhh.umn.edu/centers/slp/projects/conpric/learn/types\\_b.htm](http://www.hhh.umn.edu/centers/slp/projects/conpric/learn/types_b.htm)

# Deliberations of the Value Pricing Task Force

## Litmus Tests – Criteria for Evaluation

Task Force members identified feasibility and impact as the two criteria for evaluation, taking into account the following considerations:

- Is the option feasible for the region?
  - Is it technically feasible?
  - Is it likely to be accepted by key stakeholders?
  - Is it economically feasible?
  - Is it politically feasible?
- What is the impact of the option?
  - How does this option affect mobility, air quality and congestion?
  - What is the impact on key stakeholder groups (examples: my constituents, drivers, truckers, transit dependent individuals, political activists, etc.)?
  - Does the option create a positive choice for stakeholders?
  - How does this impact other ongoing transportation plans?

## How the Task Force used the Evaluation Criteria

Task Force members used the worksheet included as Appendix B of this report as a note-taking tool as they reviewed the following alternatives during presentations at Task Force meetings:

- General principles of Value Pricing
- High Occupancy Vehicle (HOV) Lanes
- High Occupancy Toll (HOT) Lanes
- Variable Pricing
- Insurance Incentives

After each presentation, the facilitator led a discussion that focused on the following questions:

- What are some examples of this option?
- What issues does this option address?
- What is our general reaction to this option?
- What open questions remain regarding this option?

The facilitator prepared a report of these discussions, which served as working papers for the Task Force's deliberation. Following is a summary of this report.

## **Summary Findings**

### **High Occupancy Vehicle Lanes and High Occupancy Toll Lanes**

#### ***Task Force Overview***

Georgia DOT and Parsons Transportation Group presented current findings from their HOV study. Graphical representations of typical HOV strategies are illustrated in Appendix C to this report. The example presented was to add limited access, barrier separated 2X2 HOV/HOT lanes on 17 miles of Georgia 400 from Interstate 285 North to McFarland Road. In this arrangement, automobiles with two or more passengers, transit vehicles, or motorists who are willing to pay a toll would be able to enter and exit the HOV/HOT lane at specified points. With barrier separation, there would be no other options for entrance or egress from the lane. An infrastructure of this type would also lend itself to variable pricing.

In creating an HOV system, it is important that the complete system is integral and critical to the entire transportation network, including transit, and that it maintain the integrity of general use lanes. Such a system can reduce and manage traffic congestion, improve air quality, maximize the use of carpools, vanpools and transit, promote positive public perception of mobility in the corridor.

Measures of effectiveness for such a system include person throughput (e.g., the rate at which individual travelers move through the system), travel time reliability, travel time savings,

increased number of passengers per vehicle and acceptable violation and accident rates within the corridor. A sample measure might read:

- Consistent level of service at 50 percent of posted speed in general lanes
- Provides a travel time savings of a minimum of one minute per mile and at least a total of five minutes

If the system does not offer an acceptable level of service, additional capacity should be added or vehicle occupancy requirements increased. In terms of enforcement, the existing guideline is a maximum violation rate 6 percent. In every case, provisions for enforcement should be included in the design.

Because incorporating High Occupancy Toll (HOT) lanes into an HOV strategy involves selling excess capacity, it is important to monitor the availability of capacity on a regular basis to maintaining acceptable levels of service. Other costs or requirements include facilities for collecting tolls and enforcement of restrictions. Planning concerns include issues related to environmental justice, conformity with the regional transportation plan and air quality restrictions and conformity with federal guidelines.

### ***Task Force Comments on High Occupancy Vehicle and High Occupancy Toll Options***

Generally speaking, Task Force members regarded HOV/HOT options positively using the criteria of feasibility and impact. However, they observed that with the current availability of only one HOV lane in each direction, addition of a HOT lane pricing strategy would not be practical on the existing system. The Task Force identified the following open questions, requiring additional study as part of developing an expanded HOV/HOT lane approach:

- What is the impact of increased mobility on air quality and on other transportation plans?
- How much will it cost and who will pay for it?
- How will we disperse the funds generated? How do we maintain equity?
- What is the impact on land use and local citizen groups?
- What are the trade offs we must accept in deciding on the option?
- What is the bottleneck? Do we want to feed more and more traffic through downtown?

- Are there engineering options to make this more politically feasible?
- What other transportation issues (i.e., expansion of MARTA along Georgia 400) will have an impact on this option?
- Are there other geographic locations (besides Georgia 400 and Georgia 316) where the HOT option is feasible?

## **Variable Pricing Options**

### ***Task Force Overview***

Chris R. Swensen, CRSPE, defined variable pricing as: a technique to better balance roadway capacity (supply) and demand by providing an economic incentive to encourage a shift to off peak use. In other words, fees for using major thoroughfares like the downtown connector would be higher during peak rush hour than during other times of day. Underlying assumptions include:

- Roadway capacity is a commodity.
- The value of roadway capacity varies significantly over a 24-hour day.
- Someone must pay for the infrastructure and maintenance needed to provide roadway capacity.
- The cost to provide a unit of capacity is uniform over a 24-hour day.

Traffic congestion currently costs the United States \$78 billion annually and experts project that over the next 10 years the total cost will be over \$1.5 trillion. The social costs are potentially even greater than the financial costs, affecting the economy, health and quality of life. Public transportation can help, but will not solve the problem alone. Increasingly, changes being considered for traditional gas taxes may come to an end. Finally, new technologies offer cost effective ways to assess and collect road usage fees that vary based on time of day and other factors.

Variable pricing can complement other efforts to manage congestion, particularly transit. It also allows planners to market test toll patterns and to enhance revenues that can then be invested in corridor improvements, alternative transportation resources, and the like. Implementation of a variable pricing strategy requires significant capital investment in barriers, collection sites, and physical infrastructure to support tolling. With this in mind, projects under consideration to

expand the tolled portion of Georgia 400 and the improvements on Georgia 316 projects present opportunities to build in capacity for variable pricing and test a market-based approach.

Answering equity considerations for drivers, transit dependent people, employers, and residents is key to a successful project. Therefore, it is best to involve all stakeholders from the start by inviting them to be an integral part of the design process. There is a high correlation between degree of public education and success of program. Steps include focus groups to identify issues, phone surveys and mail surveys to stay in touch with user needs and concerns; public meetings; purchased media (radio, newspaper and billboards to educate people about key concepts) and incentives (example: a drawing) to get people involved. One success story is how HOT lane income was used to subsidize public transit (example: San Diego) and led to wide acceptance and support of program expansion. By being proactive on the equity issue, planners can increase public and political acceptance of potentially controversial initiatives.

The Georgia Department of Transportation reviewed issues associated with variable pricing for Georgia 316. The primary goal for Georgia 316 is improved safety through limited access. Currently, Georgia 316 experiences one of the highest accident rates in the state. This project creates an opportunity to create barrier separated HOT lanes, with option for HOV use at discount or for free and capacity for express bus service. Currently the barrier separation is primarily for safety purposes, to reduce lane hopping and cost of enforcement; however, it will lend itself to HOT lane pricing as well. Questions of capacity are paramount, given the tremendous growth experienced in Gwinnett County and the surrounding area. Another key constraint is limitation created by the interchange with Interstate 85. This interchange is currently under design by GDOT.

An example where variable pricing could be used to manage congestion along an entire system would be Georgia 400. Currently, Georgia 400 has one toll plaza south of I-285. North of I-285, where congestion along the corridor is at its worst, access to the facility is free. Plans for improvements, such as the addition of HOV lanes, are consistently deferred due to lack of identifiable funds. One way to both manage the congestion as well as raise revenue for roadway and transit improvements within the corridor would be to implement a variable pricing plan

effective at the entry points to GA 400. As congestion along the corridor increased, variable message signs could indicate the increased fee to access the facility. Anticipated revenues could be used for bonding purposes to provide the funding for construction of the HOV and transit improvements in the corridor, which would need to be completed before the implementation of any congestion-pricing program. The Task Force felt strongly that no value-pricing project would be successful without sufficient options to payment of the fee.

### ***Task Force Comments on Variable Pricing Options***

The Task Force considered the Georgia 316 and Georgia 400 examples to be the strongest candidates for successful variable pricing projects in the metro area. However, they felt variable pricing is only one option and indicated that planners must consider how it would apply specifically to each project. Further, it may not stand alone as a strategy for reducing congestion. Instead, it should be used in combination with other remedies and options. Otherwise, the difference between variable and fixed may be negligible since motorists are likely to be influenced by options other than price. Ultimately success or failure depends on the range of choices available to motorists and the system in general. At the same time, the Task Force sees value in exploring opportunities to use funds from tolls to subsidize transit, fund HOV construction, and reduce congestion.

Some concerns were expressed about expanding toll collection north of Interstate 285 on Georgia 400 due to the cost of converting existing facilities or building new facilities. The question is how long it will take to recoup this investment in toll collection. However, given the advances in transponder and photo collection technologies, these concerns were minimal. Also there is some question of the long-term influence of variable pricing on consumer behavior: Will a significant increase in trip cost over time encourage people to relocate employment, car pool, take transit, or make other changes to save money? The Task Force believes a specific analysis is needed as part of the project study of who is using the roadway, their options and needs, their economic profiles, and some sense of their motivations for mobility.

The Task Force observed that the equity concerns related to variable pricing strategies depend on circumstances that dictate how users value trip costs/time. Ultimately, equity comes down to value and trip reliability – people will pay for both. We need to educate people regarding the

value of reduced congestion as well as about the costs of current traffic patterns. The Task Force expressed special concern about equity issues for people who are economically disadvantaged. The major equity concern from the implementation of variable pricing and managed lane projects is that it could create a two-tiered society with the privileged getting to cruise at 65 mph while everyone else sits in traffic. However, studies of those systems in operation show this perceived inequity to be a misconception as the managed lanes are used by a representative mix of commuters. By charging those willing to pay for special lanes, it has been found that fewer drivers are using the unmanaged free lanes, thus creating better traffic flow over the entire system. In addition, revenue generated from the managed system can be used to fund and provide more transit services in the corridor. With the advances in Smart Card technology, transit users could even receive credits to use for future trips within the managed lanes on those days they need it most.

Task Force members agreed that variable pricing had potential to reduce congestion when used in concert with other options or in a system context, and that part of revenue generated should be devoted to mass transit and for reducing congestion. Questions needing further study included:

- What is the profile of current users of Georgia 400 and Georgia 316?
- What types of facilities and collection options could be put into the system?
- What is the impact on business/flexibility/flextime?
- How can the system be designed and operated to maximize equity?

## **Pay-as-You-Drive Insurance Program**

### ***Task Force Overview***

When vehicle miles traveled decrease, the number of crashes decreases. As a result, the cost of insurance payouts decreases, providing a rationale for reduced premiums for drivers who drive fewer miles. Using this logic, states working in partnership with insurance providers have piloted programs to link the cost of insurance to the number of miles driven.

Such an initiative would require systems to monitor driver mileage and link this to insurance costs. The two most immediate options for monitoring are mileage-based premiums derived using GPS tracking or odometer readings as monitoring tools or pay-at-the-pump with a surcharge on gasoline costs. In either case, the challenge of maintaining privacy while



monitoring mileage is an important concern. There are also a number of equity issues if the program is voluntary. For example, there may be a negative price impact on low use drivers who decide not to participate in the program. Such a program could also change the insurance risk pool if low mileage drivers take the option, leaving only high mileage, high risk drivers remaining in the pool, resulting in higher insurance costs for all. There is also some risk of regressive tax effect with pay-at-the-pump options for poor people who drive fewer miles in older, less fuel-efficient cars. Because there is no evidence of a demonstrable relationship between fuel efficiency and risk (unlike the clear relationship between number of miles driven and risk), high fuel efficient, high mileage drivers who pay at the pump still have a higher risk but end up paying a lower cost.

The Task Force heard presentations from research associates at Georgia Institute of Technology, which is currently performing a pilot study using pay-as-you-drive insurance. The Task Force also heard from Georgia State Representatives Pat Gardner (District 47) and Stephanie Stuckey Benefield (District 67), who discussed Georgia House Bill 1491, introduced in the 2002 Legislative Session and related to Motor Vehicle Liability Insurance. This bill proposed a system of time-based or mile-based premiums. This legislation permits insurers to offer insureds a choice of time based and/or mileage based premiums and instructs the Insurance Commissioner to track the activities created by this act and to provide rules and regulations as needed. In preliminary hearings, concerns identified to date include how to monitor mileage, level of support from the insurance industry and the need for information about how it has worked in other states.

In January 2003, State legislators introduced a new bill again sponsored by Rep. Benefield that would enable insurers in the State to offer a choice between mileage-based insurance and traditional, time-based premiums. In addition, the proposed legislation requires that consumers purchasing insurance from companies offering both plans select the same type of insurance for all vehicles covered by the insurance policy. This would ensure that household members do not switch their driving from a vehicle covered by mileage-based insurance to a vehicle covered by traditional insurance. According to the proposed legislation, consumers also would be required to pre-purchase at least 2,000 miles of coverage. To help the State collect data on mileage-based

premiums, the proposed legislation mandates that insurers file separate reports on their experience with mileage-based premiums versus time-based premiums. Using this information, the insurance commissioner could annually compile the number of insurers issuing mileage-based premium plans and the locations within Georgia where the mileage-based premiums are being used. The commissioner also could analyze the impact of mileage-based premiums on traditional, time-based premiums.

At the close of the 2003 Georgia State Legislative Session, the bill was sitting with the House Insurance Committee. A public hearing on the item will be held October 17, 2003 in Hiawassee, Georgia.

### ***Task Force Comments on the Pay-As-You-Drive Insurance Option***

If pay-as-you-drive (PAYD) insurance were available area wide, not corridor specific, there appears to be some indication that it could affect air quality. However, the data regarding the real impact are still being generated. This option does not specifically reduce peak congestion, but has a broader effect. Time of day impact depends on consumer flexibility. The program is voluntary for consumers and insurance companies, and the business model seems questionable: If premium losses are transferred to others, the program has the potential to increase insurance rates in general. Favorable outcomes depend in large part on good will, enforcement and experience of insurance companies, rather than policymaking bodies. Insurance companies hope to offset premium losses by reduced risk and payouts of increased certainty, leaving them more to invest. Preliminary data suggest the amount of insurance payouts may be less; however, there is still a great deal of uncertainty in this area.


Task Force members were particularly concerned about the privacy of consumers and the cost implication for people who opt out of the program, monies at risk for insurance companies, and the cost to the state of Georgia to monitor and administer the program. The program has the potential for legislating social strategy in the form of insurance for example “redlining,” or using risk profiling as a way to select customers by allowing insurance companies to access credit reports. This potential aspect created great consternation in some Task Force members. The Task Force questioned whether PAYD insurance actually changed behavior or just changed cost structure by shifting money around.

Task Force members identified the following questions for further study:

- Is this more of, or less of, an incentive than an increase in the gasoline tax?
- How will the program be marketed?
- What has been the experience in other states?
  - Influence on pricing behavior of insurance companies
  - Influence on driving behavior of consumers
  - Political feasibility
  - Impact on air quality and congestion

In general, the Task Force supported gathering more information about this option and encouraged reintroduction of legislation. Members saw much potential for impact and additional work needed on the ‘feasibility’ side. In particular, the option has potential benefits including serving as an incentive to those with flexibility to drive less, promoting fairness in insurance rates and creating more choices for consumers.

## Appendix A : Process Overview




### GRTA Value Pricing Task Force

*Mission: The Task Force will explore and evaluate value-pricing (market-based) transportation option(s) and make recommendation(s) to the GRTA Board.*

- Process
  - Phase 1 – Get organized – Complete – Meeting 2
    - Agree on Mission, Objectives and Criteria
    - Dialogue and discuss possible options
  - Phase 2 – Narrow our focus – Meetings 3-6
    - Meeting 3: HOT Lanes
    - Meeting 4 – March 12, 2002: Variable pricing
    - Meeting 5 – May 7, 2002: Pay as you drive insurance
  - Phase 3 – Agree on recommendations
    - Meeting 6 – July 23, 2002: wrap up review
    - Meeting 7 – TBD: Review findings and additional information; identify issues and preliminary direction. Finalize recommendations
    - Meeting 9 – TBD: Read out to GRTA Board

- Ongoing Processes
  - Task Force members invite constituent feedback
  - Media briefing and ongoing media relations
  - Socialize priority options with key constituents
  - Evaluate quality of work versus time frame regularly
  - Explore and recommend contingencies and education processes
- Reviewed
  - HOT Lanes
  - Variable Pricing
  - Pay as you Drive Insurance
  - Paid Parking

1
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3/12/02



### Value Pricing Criteria

High

**Impact**

Low

High

**Feasibility**

- Evaluate impact for key stakeholders (makes a positive difference).
  - Affects mobility
  - Affects air quality
  - Affects congestion
  - Provides a positive choice for stakeholders
  - Impacts other transportation plans

2
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3/12/02

## Appendix B: Evaluation Matrix

**Option Under Consideration:** \_\_\_\_\_

Goal: Determine relative strengths and weaknesses of technically feasible options under consideration.

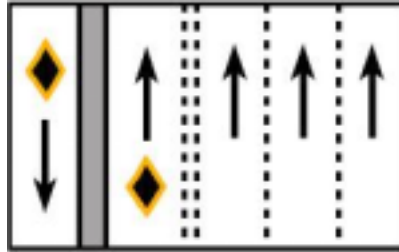
Process: Use a “+” to indicate a strength or something that can help or is positive; use a “-” to indicate a weakness or something that can hurt or is negative; use a “0” to indicate something that is not a factor. Add notes and comments in space provided or on the back of this sheet. Using these notes and your own experience, decide where on the criteria grid you would rate this option.

	Key Stakeholders							
	Peak Commuters	Non- Peak Commuters	Commercial Motorists	Transit-dependent people	Citizen Advocates (NIMBY)	Region as a whole	Other	My constituents
<b>Impact – makes a positive difference on the problem(s)</b>								
Impact on mobility								
Impact on air quality								
Impact on congestion								
Provides a positive choice								
Impact on other transportation plans								
<b>Feasibility – can be accomplished in a reasonable time frame</b>								
Economically feasible								
Politically feasible								
General acceptability								

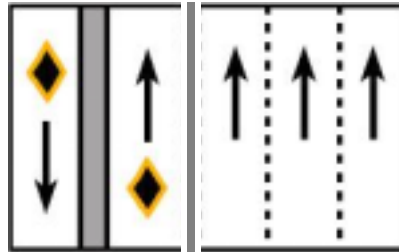
Additional factors/considerations not listed above:

## Appendix C: Typical HOV Strategies

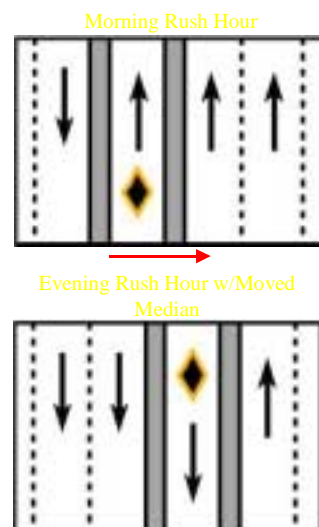
- Concurrent Flow



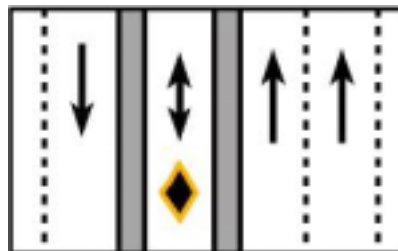
- Barrier Separated



- Contraflow Lanes



- Reversible Lanes



## Appendix D: Participants on the Atlanta Value Pricing Task Force, 2001-2003

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